Concordia
UNIVERSITY

VOLUME 1, NUMBER 7
MARCH 1994

Engineering & Computer Science BITS

FACULTY WORKSHOP ON RECOGNITION OF RESEARCH CONTRIBUTIONS AND RESEARCH SUPERVISION

On Tuesday, February 22, the Faculty held a one-day workshop on the topic of Recognition of Research Contributions and Research Supervision. More than 100 graduate students and professors attended the workshop to hear invited speakers and participate in thematic workshops. Discussion was centred around several existing documents on academic integrity including, the *Policy on Research Supervision, Graduate Student Responsibilities and Research Recognition in Publications* which was developed and adopted by the Department of Mechanical Engineering last spring, and the recent Tri-Council (NSERC, MRC, SSHRC) report on *Integrity in Research and Scholarship*.

Throughout the day workshop participants heard from various people from both inside and outside Concordia. Dean Donat Taddeo opened the proceedings by saying that this was a step towards the development of a Faculty policy on research. Prof. Hugh McQueen, spoke about the historical context and development of the policy he helped write for Mechanical Engineering. Associate Vice-Rector Academic, Prof. Tien Bui, briefly discussed recently published documents regarding academic integrity. Three invited guests, Prof. J.J. Jonas from the Department of Mining and Metallurgical Engineering at McGill, Prof. Jo Anne Turnbull from Concordia's Chemistry Department, and the President of the Canadian Space Agency, Dr. Roland Doré, gave the audience their views on the topics of research supervision, authorship and academic integrity.

In both the morning and afternoon sessions, participants had the opportunity to discuss aspects of the day's topic in five thematic workshops: Funding and Publication; Working Relationships; Rights, Responsibilities and Rewards; Team Research / Individual thesis; and, Patents, Copyright and Recognition. At the afternoon's plenary session each group gave a short presentation of their discussions. While the graduate students expressed certain concerns about the policy developed in Mechanical Engineering, everyone in attendance agreed that it would be helpful for the Faculty to work towards a policy on research.

In his closing remarks, Dean Taddeo said that the Faculty would be appointing a task force before the end of this academic year which would work towards the development of a policy on research to be presented to Faculty Council.

FEDERAL GOVERNMENT SUPPORTS STUDENT COMPETITION

Federal Minister of Natural Resources, Anne McLellan, announced that her ministry will be supporting the 1994 Hybrid Electric Vehicle (HEV) Challenge to take place in Southfield, Michigan this June. "I am proud of how well Canadian schools have done in previous competitions, " she said. Only four of the 42 universities competing are from Canada, but at the 1993 event the University of Alberta took first place and Concordia took third. In her statement Ms. McLellan underlined the importance of the HEV Challenge as "an excellent opportunity for some of North America's top students to demonstrate progress in the development of new alternative transportation technology." Other sponsors of the 1994 HEV Challenge are The United States Department of Energy, The Society of Automotive Engineers and Saturn Corporation.

In this Issue...

Workshop........page 1
Marianopolis...page 2
Events............page 2
Faces...............page 3
Bridges............page 4

Faculty is Major Sponsor of Province's Largest Regional Science Fair

The 1994 Bell Montreal Regional Science Fair (BMRSF) was held at Marianopolis College from March 13 to 15. Concordia's association with the BMRSF goes back several years. This year, however, our Faculty of Engineering and Computer Science made a significant commitment to the fair. It sent upwards of 20 judges - both professors and graduate students - to Marianopolis to help evaluate the projects (more than 200 judges are involved in the event). Dr. Tad Krepec acted as a member of the Executive Judging Panel which made final judging decisions. As Faculty Dean Donat Taddeo puts it, "We share Marianopolis' commitment to encourage more young men and women to pursue professional careers in science and engineering. The exposure to research and technological innovation that students gain through this type of event is invaluable. We too are committed to building on the foundations of curiosity, exploration and enthusiasm that are fostered through this experience." The Dean and Associate Dean Ted Stathopoulos were on hand for the awards ceremony to present the prizes sponsored by Engineering and Computer Science.

And the winners were...

Building Engineering Prize ($100):
Amy Moselhi, Secondary V, Miss Edgar's and Miss Cramp's School - CAN SOLAR ENERGY WORK?

Civil Engineering Prize ($100):
Christian Stockwell & Charles Wallace, Secondary I, John Rennie High School - HYDROELECTRIC DAMS: GOOD OR BAD?

Computer Science Prize ($100):
Simon Kwan & Ching Chung Tran, Secondary V, College Prep International - AUTO-SECUR METRO

Electrical And Computer Engineering Prize ($100):
Mark Grundland, CEGEP II, Marianopolis College - A VISION OF LOGIC

Mechanical Engineering Prize ($100):
Darren Middleman, Secondary V, John Rennie High School - WING LIFT

The Bridging the Millenia Award (travel assistance to attend the International Science and Engineeirng Fair in Birmingham, Alabama):

* Michael Simkin, Secondary IV, Royal West Academy - LIGHT WAVE COMMUNICATION
* Jay Pierrepoint & Biagio TaMbasso, Secondary V, Royal West Academy - A BARRIER FOR SOUND

EVENTS OF NOTE

* During the month of March, the Centre for Building Studies took part in two events focusing on advanced housing. The first, on March 21, was a conference held in conjunction with the Commission Canadienne de Recherche sur la Construction. It featured guest speaker François Dubrous, head of research at CANMET. The second, on March 24, was a one-day workshop run by SIRICON and Natural Resources Canada for people involved in the residential construction industry.

* The Engineering and Computer Science Graduation Ball will take place on Friday, May 6, at Restaurant Hélène de Champlain. All members of the Faculty community are invited to attend. Tickets are $50 per person (cocktails, dinner with wine and entertainment) and are available through ECA, H 880-10.

* The Masters of Engineering programme in Aerospace is about to enter its fifth year. On March 24, undergraduates interested in the programme attended an information session held at the Université de Sherbrooke. This programme is a collaborative effort of Concordia, École Polytechnique, McGill and Montreal-based aerospace companies. One of the highlights of the programme is a paid industrial placement at one of the sponsoring companies.

* March 5 to 12 was National Engineering Week. During this week hundreds of events were held across Canada to increase public awareness of the importance of engineering in our everyday lives, and to encourage young people to consider engineering as a career choice. As part of the festivities, engineering summer science camps from across the country held a one day, interactive display at the National Museum of Science and Technology in Ottawa. The Ordre des ingénieurs du Québec held a lecture entitled, Invention to Innovation: A Methodical Approach, and sponsored a contest for grade school children.

* At the March 16 meeting of Concordia's Board of Governors, a search committee was struck to find a new Dean for the Faculty of Engineering and Computer Science. The term of Dean Donat Taddeo ends in the spring of 1995.

* Henry Hong (Mechanical), Rocco Lombardo (Civil), Jacques Payer (CBS), Larry Thiel (Computer Science) and Joe Woods (Electrical & Computer) are helping to organise the University's Science Exploration Week which will take place in April. Seventy high school students from in and around Montreal will visit Concordia for a week to find out more about science oriented degrees and careers.

FACULTY FACES

Marco Arquilla – Director REACH '94

Faculty Faces is a regular feature of *Bits*, focusing on personalities within Engineering and Computer Science.

At Champlain College Marco Arquilla had a physics teacher, Paul Kanton, who was so willing to help his students that he gave them his home phone number. "He wanted us to ask questions and get excited about science." Marco had a good idea that he wanted to study engineering before CEGEP, "I was always tinkering with electrical stuff, but Mr. Kanton really helped me to confirm my decision." Now in his second year in the Department of Electrical and Computer Engineering, he says he enjoys Concordia, "It's a friendly place. I like the small classes, and the fact that your professors know your name."

This coming summer Marco will be Concordia's Co-Director for REACH '94. REACH is a summer science camp run by engineering and computer science students at both Concordia and McGill. In its first five years of operation the camp has introduced applied science and engineering to approximately 9000 children in the Greater Montreal area. He is currently working with the McGill Co-Director, Robyn Petri, and a group of volunteers to get this year's camp up and running. "We will get about 350 kids at the camp itself. In the seven weeks before camp starts we are planning to visit 30 to 35 schools with our REACHOut program - that's another 3 to 4 thousand kids who will be introduced to science the REACH way."

"The REACH way" of hands-on teaching of science isn't unique to Concordia and McGill. There are 17 more summer camp programs across Canada (4 more in Québec), all run by engineering students, and all teaching children about applied science using the same guiding principal:

I hear, and I forget.
I see, and I remember.
I do, and I understand.

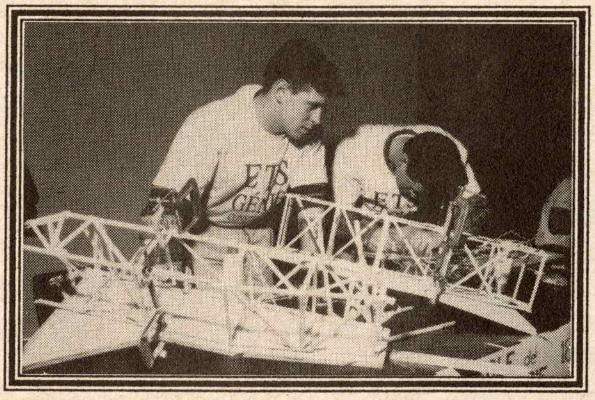
It's obviously been a great success. The first camp, Science Quest, began at Queen's University in 1988. In 1989, REACH was started. Now, there is a national organization of engineering science camps called YES (Youth Engineering and Science), which publishes a monthly newsletter, coordinates semiannual national meetings of camp directors, organises counsellor exchanges, compiles experiments from camps across the country, and obtains funding at national level for all camps. YES's first coup was a $250 thousand grant from Science Culture Canada. Other national sponsors are Bell-Northern Research and Northern Telecom. During National Engineering Week, (March 5 to 12) the directors of all YES member camps met in Ottawa and spent a day showing off their programs at the National Museum of Science and Technology. "Everyone seemed very impressed by what we have accomplished in so short a time," says Marco, " even the federal Secretary of State for Science and Technology, John Gerrard, came to visit. He signed the guest book with one of our reaky-freaky pens!" (A project from REACH '93.)

Marco is very excited about REACH and its peripheral programs for the summer of 1994. For the first time there will be one or two sessions for the whole family called REACHing out to Families. The idea behind this program is that children will become more interested in science when their parents get involved. Another new program will be a three-day camp for physically disabled youngsters. Marco is also hoping that REACH-a-Teach, training workshops for elementary school teachers will take off. "We've already given two sessions which went very well. The teachers have told us that this approach is ideal for their students." Basically, he's just looking forward to working with the kids, "If I can reach just one out of the 350 at at camp, " he says, "I'll have paid back all of Mr. Kanton's hard work."

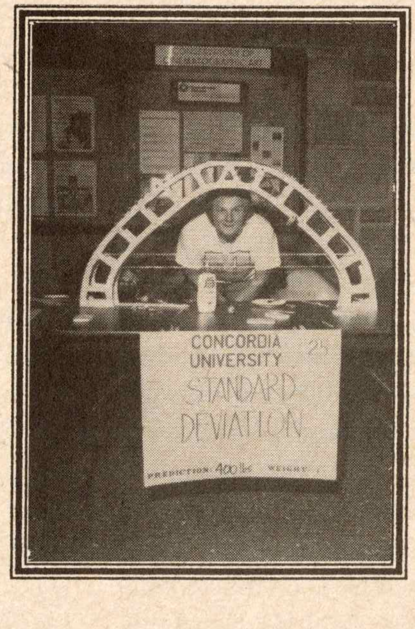
If you would like more information about REACH you can call 398-8484. Registration forms are available at various points throughout Concordia, including ECA (H 880-10) and the Hall Building Information Desk. REACH is funded, in part, by corporate and private donations. If you would like to make a tax-deductible donation please send your cheque to: REACH, 817 Sherbrooke St. W., Macdonald Engineering Building, Iron Ring Room, Montreal, Quebec, H3A 2K6.

YOU CAN DO THE MOST AMAZING THINGS WITH POPSICLE STICKS!

In 1984, the original organizers of the Concordia Bridge Competition probably did not realise what they were starting. They probably never imagined that 10 years later students would still be gathering in the Hall Building to create miniature superstructures out of popsicle sticks, toothpicks, dental floss and white glue. And, chances are they could not have foreseen their competition becoming an international concern. But it is.



On Friday, March 4, 1994, the Concordia student chapter of the Canadian Society for Civil Engineers (CSCE) held its tenth annual Bridge Building Competition. Thirty-eight student teams from the east, Memorial University of Newfoundland, to the west, University of British Colombia, and even one from south of the border, Norwich University, met at Concordia. During the morning, to the fascination of passers-by, they assembled their bridges in the lobby and on the mezzanine. One team, Dupont et Dupont, from École de Technologie Supérieure (ETS) was so well prepared that their bridge went together in less than 20 minutes. "It's actually our second bridge," team members explained, "we tested the first at school to see how much load it would take." (The bridges are judged in several categories including how close the team can estimate the load at failure of their structure, aesthetics and actual loading capacity.)



The main event, crushing, took place in the afternoon. Room H 110 was packed to capacity, as one after another bridges were placed in the "CRUSHER" and broken into splinters, chants of "Crush it! Crush it!" rising from the audience. While no team was allowed to leave with its bridge intact, the crowd was very appreciative of everyone's work. McGill University's Pont d'Avignon received a standing ovation after being loaded to 523 kg, more than half a ton.

In the end, **Lakehead University's Fifth Derivation** came out on top. By placing second in both the aesthetics and loading competition (418 kg) the team took home the tournament trophy and $1,500 in prize money. Other winners were:

2nd place: ETS, Dupont et Dupont, 364 kg
3rd place: ETS, Pontets, 316 kg
4th place: McGill, Pont d'Avignon, 523 kg
5th place: University of Calgary, Bow Valley Design Group, 307 kg
Most Aesthetic Design: Memorial University of Newfoundland
Most Spectacular Crush: University of Ottawa

Major sponsors of the 1994 Concordia Bridge Competition were: Wainbee Inc., IDC, Gamarco Construction, CSCE Québec, The Faculty of Engineering and Computer Science, The Department of Civil Engineering and the Engineering and Computer Science Students' Association.

Engineering and Computer Science Bits is a monthly publication of the Faculty's Communications Office, which is distributed, without charge, to the members of the Engineering and Computer Science Community.

Composition & Layout:
Dawn Wiseman

Photographs:
Winston Cross

Bits welcomes submissions from the members of the Faculty community. Please send submissions, comments and letters to:
Dawn Wiseman
H 907
Phone: 848-3073
Fax: 848-8646